value of the temperature is exceeded, the retaining element or the supporting region of the retaining element is shifted in such a way that the short-circuiting link which is under mechanical stress is released immediately and therefore the distance between the first and second electrodes of the arrester is very quickly bridged. As a result of the quickly closing contact, flashovers during the approaching movement and therefore burning off the material can be prevented.

[0012] The short-circuiting mechanism composed of the short-circuiting link and the retaining element can be attached, in particular as part of a 3-electrode arrester to a hollow body of the 3-electrode arrester. In the embodiment as a 3-electrode arrester, the hollow body has a first and a second partial body as well as a metallic ring which is arranged in the two partial bodies and which forms the third electrode. The short-circuiting link is attached at one point to the retaining element which is arranged on the metallic ring. When the short-circuiting link is released after the threshold value of the temperature is exceeded, the short-circuiting link closes the first and second electrodes briefly, with the result that the first, the second and the third electrodes are connected to one another conductively.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The invention will be explained in more detail below with reference to figures which show exemplary embodiments of the present invention, in which:

[0014] FIG. **1** shows an embodiment of a surge arrester having protection against heating in a longitudinal view before the triggering of the short-circuiting mechanism;

[0015] FIG. **2** shows an embodiment of a surge arrester having protection against heating in a transverse view before the triggering of the short-circuiting mechanism;

[0016] FIG. **3** shows an embodiment of a surge arrester having protection against heating in a longitudinal view after the triggering of the short-circuiting mechanism; and

[0017] FIG. **4** shows an embodiment of a surge arrester having protection against heating in a transverse view after the triggering of the short-circuiting mechanism.

DETAILED DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

[0018] FIG. **1** shows a longitudinal view and FIG. **2** shows the corresponding transverse view of an embodiment of a surge arrester **1** having protection against heating with a short-circuiting mechanism by which the arrester can be short-circuited in the case of a raised temperature, with the result that further and excessive heating of the arrester component is prevented. The surge arrester **1** comprises an electrode **10** for applying a first voltage potential to the arrester, and a second electrode **20** for applying a second voltage potential to the arrester. The first and second electrodes **10**, **20** are arranged on the open sides of a hollow body **50** of the arrester. The hollow body **50** has a cavity **53** between a first opening **51** and a second opening **52** in the hollow body. The hollow body **50** can be embodied, for example, as a small tube composed of a ceramic material.

[0019] The first opening **51** in the hollow body **50** is covered by the first electrode **10**. The second opening **52** in the hollow body **50** is covered by the second electrode **20**. The first and second electrodes **10**, **20** are arranged on the open sides **51**, **52** of the hollow body in such a way that the cavity **53** is sealed in a hermetically tight fashion by the first and second electrodes. There can be a gas, for example a noble gas, located in the cavity **53**. The electrode **10** is connected to an electrical conductor **2** for applying the first voltage potential to the arrester. An electrical conductor **3** for applying the second voltage potential to the arrester is arranged on the second electrode **20**.

[0020] In the embodiment shown in FIGS. **1** and **2**, the surge arrester is embodied as what is referred to as a 3-electrode arrester. In this embodiment, the hollow body **50** has a first partial body **54** embodied as a hollow cylinder and a second partial body **55** embodied as a hollow body, said partial body **54** and partial body **55** each being composed of a ceramic material, and the hollow body **50** additionally comprising a metallic ring **56** which forms a third electrode of the arrester. A line **4** for feeding a third voltage potential is arranged on the third electrode **56** of the arrester. In the embodiment of the 3-electrode arrester shown in FIGS. **1** and **2**, a ground potential is present, for example, to the third electrode.

[0021] The first partial body **54** of the hollow body **50** comprises the first opening **51** which is covered by the first electrode **10**, and a further opening **57**. The second partial body **55** of the hollow body **50** has the second opening **52** of the hollow body, which opening **52** is covered by the second electrode **20**, and said second partial body **55** additionally comprises a further opening **58**. The metallic ring **56** is arranged between the further opening **57** in the first partial body **54** and the further opening **58** in the second partial body **55**. A continuous cavity is therefore formed between the first opening **51** and the second opening **52**.

[0022] The first and second partial bodies **54**, **55** can have the same external diameter. The metallic ring **56**, which forms the third electrode of the surge arrester, can have a larger external diameter than the first and second partial bodies **54**, **55**. As a result, an edge **560** of the metallic ring **56** projects out of the planar surface of the first and second partial bodies **54**, **55**. The internal diameter of the metallic ring **56** can be smaller than the internal diameter of the first and second partial bodies, with the result that the internal diameter of the hollow body **50** in the region of the metallic ring/the third electrode **56** is smaller than in the region of the first and second partial bodies **54**, **55**.

[0023] The gas-filled surge arrester **1** which is shown in FIGS. **1** and **2** operates according to the physical gas principle of arc discharging. The surge arrester behaves electrically as a voltage-dependent switch. As soon as the voltage present between the first and second or third electrode or the voltage present between the second and first or third electrode exceeds the level of a trigger voltage or response voltage, an arc is formed within fractions of a second in the gas-tight discharge space **53** of the arrester.

[0024] The surge which is present between the first and second electrodes is short-circuited by the high current carrying capability and the burn voltage of the arc which is virtually independent of the current. When the surge decreases, the current in the arc is depleted until the level of a minimum current of the arrester required to maintain the arc discharge is undershot. The arc discharge breaks down and the arrester switches off after passing through a corona phase. The internal resistance of the arrester resumes its original operating state with several 100 MΩ.

[0025] If a high voltage level above the level of the trigger voltage is continuously present between the electrodes of the